

FIG. 1A

cagaaagaga cctatatgat caaatacaga ac atg atc ttc ctc ctg cta atg 53
Met Ile Phe Leu Leu Leu Met
1 5

ttg agc ctg gaa ttg cag ctt cac cag ata gca gct tta ttc aca gtg 101
Leu Ser Leu Glu Leu Gln Leu His Gln Ile Ala Ala
10 15 20

aca gtc cct aag gaa ctg tac ata ata gag cat ggc agc aat gtg acc 149
Thr Val Pro Lys Glu Leu Tyr Ile Ile Glu His Gly Ser Asn Val Thr
25 30 35

ctg gaa tgc aac ttt gac act gga agt cat gtg aac ctt gga gca ata 197
Leu Glu Cys Asn Phe Asp Thr Gly Ser His Val Asn Leu Gly Ala Ile
40 45 50 55

aca gcc agt ttg caa aag gtg gaa aat gat aca tcc cca cac cgt gaa 245
Thr Ala Ser Leu Gln Lys Val Glu Asn Asp Thr Ser Pro His Arg Glu
60 65 70

aga gcc act ttg ctg gag gag cag ctg ccc cta ggg aag gcc tgc ttc 293
Arg Ala Thr Leu Leu Glu Glu Gln Leu Pro Leu Gly Lys Ala Ser Phe
75 80 85

cac ata cct caa gtc caa gtg agg gac gaa gga cag tac caa tgc ata 341
His Ile Pro Gln Val Gln Val Arg Asp Glu Gly Gln Tyr Gln Cys Ile
90 95 100

atc atc tat ggg gtc gcc tgg gac tac aag tac ctg act ctg aaa gtc 389
Ile Ile Tyr Gly Val Ala Trp Asp Tyr Lys Tyr Leu Thr Leu Lys Val
105 110 115

aaa gct tcc tac agg aaa ata aac act cac atc cta aag gtt cca gaa 437
Lys Ala Ser Tyr Arg Lys Ile Asn Thr His Ile Leu Lys Val Pro Glu
120 125 130 135

aca gat gag gta gag ctc acc tgc cag gct aca ggt tat cct ctg gca 485
Thr Asp Glu Val Glu Leu Thr Cys Gln Ala Thr Gly Tyr Pro Leu Ala
140 145 150

gaa gta tcc tgg cca aac gtc agc gtt cct gcc aac acc agc cac tcc 533
Glu Val Ser Trp Pro Asn Val Ser Val Pro Ala Asn Thr Ser His Ser
155 160 165

agg acc cct gaa ggc ctc tac cag gtc acc agt gtt ctg cgc cta aag 581
Arg Thr Pro Glu Gly Leu Tyr Gln Val Thr Ser Val Leu Arg Leu Lys
170 175 180

cca ccc cct ggc aga aac ttc agc tgt gtg ttc tgg aat act cac gtg 629
Pro Pro Pro Gly Arg Asn Phe Ser Cys Val Phe Trp Asn Thr His Val
185 190 195

005586-12601

FIG. 1B

agg gaa ctt act ttg gcc agc att gac ctt caa agt cag atg gaa ccc 677
 Arg Glu Leu Thr Leu Ala Ser Ile Asp Leu Gln Ser Gln Met Glu Pro
 200 205 210 215

agg acc cat cca act tgg ctg ctt cac att ttc atc ccc tcc tgc atc 725
 Arg Thr His Pro Thr Trp Leu Leu His Ile Phe Ile Pro Ser Cys Ile
 220 225 230

att gct ttc att ttc ata gcc aca gtg ata gcc cta aga aaa caa ctc 773
Ile Ala Phe Ile Phe Ile Ala Thr Val Ile Ala Leu Arg Lys Gln Leu
 235 240 245

tgt caa aag ctg tat tct tca aaa gac aca aca aaa aga cct gtc acc 821
 Cys Gln Lys Leu Tyr Ser Ser Lys Asp Thr Thr Lys Arg Pro Val Thr
 250 255 260

aca aca aag agg gaa gtg aac agt gct atc tga acctgtggtc ttgggagcca 874
 Thr Thr Lys Arg Glu Val Asn Ser Ala Ile
 265 270

gggtgacctg atatgacatc taaagaagct tctggactct gaacaagaat tcggtggcct 934

gcagagcttg ccatttgcac ttttcaaatg cctttggatg acccagcact ttaatctgaa 994

acctgcaaca agactagcca acacctggcc atgaacttg ccccttcaact gatctggact 1054

cacctctgga gcctatggct ttaagcaagc actactgcac ttacagaat taccctactg 1114

gatcctggac ccacagaatt ccttcaggat ccttcttgcct gccagactga aagcaaaaagg 1174

aattatttcc cctcaagttt tctaagtgat ttcca 1209

FIG. 2B

Cd80_Human	280	300	320	340	360
Cd86_Human	288	306	324	342	360
Ga16817596	296	314	332	350	368
B7-H1_Huma	290	308	326	344	362
B7p-1_Hum	292	310	328	346	364
Pro352_Hum	294	312	330	348	366
Btfl_Human	296	314	332	350	368
Btsf2a2_Hu	298	316	334	352	370
Btn3a3_Hum	300	318	336	354	372
Btn_Human	302	320	338	356	374
Cd80_Human	380	400	420	440	460
Cd86_Human	388	408	428	448	468
Ga16817596	396	416	436	456	476
B7-H1_Huma	390	410	430	450	470
B7p-1_Hum	392	412	432	452	472
Pro352_Hum	394	414	434	454	474
Btfl_Human	396	416	436	456	476
Btsf2a2_Hu	398	418	438	458	478
Btfl_Human	400	420	440	460	480
Btn3a3_Hum	402	422	442	462	482
Btn_Human	404	424	444	464	484
Cd80_Human	480	500	520	540	560
Cd86_Human	488	508	528	548	568
Ga16817596	496	516	536	556	576
B7-H1_Huma	490	510	530	550	570
B7p-1_Hum	492	512	532	552	572
Pro352_Hum	494	514	534	554	574
Btfl_Human	496	516	536	556	576
Btsf2a2_Hu	498	518	538	558	578
Btfl_Human	500	520	540	560	580
Btn3a3_Hum	502	522	542	562	582
Btn_Human	504	524	544	564	584

FIG. 2C

	560	*	580	*	600	*	620	*	
Cd80_Human :									...
Cd86_Human :									...
GA16817596 :									...
B7-H1_Huma :									...
B7rp-1_Hum :									...
Pro32_Hum :									...
Btfl_Human :									...
Btsf2a2_Hu :									...
Btf4_Human :									...
Btn3a3_Hum :									...
Btn_Human :									...

FBRL GSDDSP**FTICP**ALTGASGVWVPEEGKLRVGTQSL
VERLTLEPTAT**TTIC**FTPKVESSPPDLVPDHSLETPLTPEGLANESGEPQAEVTSLLLPAPFGAEVSPSATTNNQNHKLOARTEALY : 584
FCWSSGKK**PTTIC**FLADGPERVTVIANADLSKEIPLSPMGESAPRDADTLHASKLIPTQPSQAG : 526

FIG. 3A

ataagaagct gaattaaggt gatggcagtg ggggtgaaga aaggagagcc accatgcaaa 60
 aagtatccag gagggagaat taacaggact aggggatggg ccatatttgc aagatgagaa 120
 atgcagaggt ctaagattct agctnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 180
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 240
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nngcataaac 300
 catattttcc ccagaggagg attagtagga aaggaagctg ctggttgaa agtatcttta 360
 tagcagtgtc tgttcctcgg ttgtctcaag gggacagtgt gccaggaaaag tccccgtgga 420
 agggcaagga agaaggggaa gtaaaagcca gtggcaggtg atccaagaat cttttctgtt 480
 gctagagcta tgttacatgc tgtcctttca tgcctctaaa ataagagtgc tggcaagtgc 540
 caggcctgtt ggtgcagctt aagatgatac ctttcttgga tataatgca tctgaataag 600
 gaaggctatc ttctggtcaa gctaagggtat gccatgagca ttccctgtg gaaagcactt 660
 aattctgttc ccagttgtta cctgctgtaa gatctccctt tctaaaataa aaacaagaat 720
 acagctcact gaggacctta catttccttc tagctactga ctcatcttct ttctcctttt 780
 tatagcactc ttcttgagag agttgcctat atttgttgcc acatctttac ccattctctt 840
 ttgaacctat tcaagcttcc atctgtacaa aactcactga tactgtgctt gtcaggatca 900
 tccatgacct ccatctgctt aaatgcaact ctcaagagta ttggctcta ctgatcactc 960
 cttttagca ctgtgtttta aaatataggt ttattattta tttaggtatg gtgaggccaa 1020
 tatatcagga aatgactgtc gttgaaaaaa gtatgttgta ctacacagat ccaagagaag 1080
 gggggcacac catgcccaa agggccacat ggggaagcac cagggtcagc caggaggtgg 1140
 gtgggggggt cgcaagatct ttattgtggt ttcaacagga agaaatgggt gaagcagggg 1200
 gagtggattt aggattagct gatataaata atttcagcag gctctggggc ataggggctg 1260
 tccttagctt tctggtactt ggccctgggg tgattaaggc agttgcatag tgttggggaa 1320
 gtgaaagccc ccaataaatg aggcagttgt gggtaggggc tctgaaatgg gttggtttgc 1380
 atttgaaagg tgtgctcatg ggcaagtggg ttactctctc tttagaggtta gaattggcta 1440
 accctgggag cggcagctcc ttcaagggtca gcaaggcccc aggtgtcaaa gcatcagaat 1500
 acagaaaata aaatgcatgg ataatacaca ctgccatttg ctttgtacc cttcctttca 1560
 atctctctg ctggtgaccg ctcttcacaa agatctataa atgttggaat acccatgtc 1620

FIG. 3B

tcagtccttg ggcactctct ttccatctct tctgtagggt atgtaatgca gatatccatg 1680
acttttaaatc tttaacactt ctgcattgat gactcctaaa tttacatctc taccccaact 1740
gcctactaaa cacctccact tggctatcta ataggcattt caaaccaaat ctacaacaaa 1800
cgtaactctt ttcccccttc cttaatttgc ttctccccc gctttctcca ttttaataaa 1860
cagcatctcc attgccttag tgactcaagc cccaaactta ggaattttcc cagattttcc 1920
tctttttctc aaactatata tctagcctgt cagcaggtcc cttcaggtct tttttcnann 1980
nannnnnnnn nannnnnnnn nannnnnnnn nannnnnnnn nannnnnnnn nannnnnnnn 2040
nannnnnnnn nannnnnnnn nannnnnnnn nannnnnnnn nannnnnnnn nannnnnnnn 2100
nannnnnnnn nannnnnnnn nannnnnnnn nannnnnnnn nannnnnnnn nannnnnnnn 2160
nannnnnnnn nannnnnnnn nannnnnnnn nannnnnnnn nannnnnnnn nannnnnnnn 2220
nannnnnnnn nannnnnnnn nannnnnnnn nannnnnnnn nannnnnnnn nannnnnnnn 2280
nannnnnnnn nannnnnnnn nannnnnnnn nannnnnnnn nannnnnnnn nannnnnnnn 2340
nannnnnnnn nannnnnnnn nannnnnnnn nannnnnnnn nannnnnnnn nannnnnnnn 2400
nannnnnnnn nannnnnnnn nannnnnnnn nannnnnnnn nannnnnnnn nannnnnnnn 2460
ctaannnnnn nannnnnnnn nannnnnnnn nannnnnnnn nannnnnnnn nannnnnnnn 2520
nannnnnnnn nannnnnnnn nannnnnnnn nannnnnnnn nannnnnnnn nannnnnnnn 2580
catttatatt tannnnnnnn nannnnnnnn nannnnnnnn nannnnnnnn nannnnnnnn 2640
nannnnnnnn nannnnnnnn nannnnnnnn nannnnnnnn nannnnnnnn nannnnnnnn 2700
nannnnnnnn nannnnnnnn nannnnnnnn nannnnnnnn nannnnnnnn nannnnnnnn 2760
nannnnnnnn nannnnnnnn nannnnnnnn nannnnnnnn nannnnnnnn nannnnnnnn 2820
nannnnnnnn nannnnnnnn nannnnnnnn nannnnnnnn nannnnnnnn nannnnnnnn 2880
nannnnnnnn nannnnnnnn nannnnnnnn nannnnnnnn nannnnnnnn nannnnnnnn 2940
nannnnnnnn nannnnnnnn nannnnnnnn nannnnnnnn nannnnnnnn nannnnnnnn 3000
nannnnnnnn nannnnnnnn nannnnnnnn nannnnnnnn nannnnnnnn nannnnnnnn 3060
nannnnnnnn nannnnnnnn nannnnnnnn nannnnnnnn nannnnnnnn nannnnnnnn 3120
nannnnnnnn nannnnnnnn nannnnnnnn nannnnnnnn nannnnnnnn nannnnnnnn 3180
nannnnnnnn nannnnnnnn nannnnnnnn nannnnnnnn nannnnnnnn nannnnnnnn 3240

CG55366.12601

056505

nnnnnnnnnnnn	nnnnnnnnnnnn	nnnnnnnnnnnn	nnnnnnnnnnnn	nnnnnnnnnnnn	nnnnnnnnnnnn	3300
nnnnnnnnnnnn	nnnnnnnnnnnn	nnnnnnnnnnnn	nnnnnnnnnnnn	nnnnnnnnnnnn	nnnnnnnnnnnn	3360
nnnnnnnnnnnn	nnnnnnnnnnnn	nnnnnnnnnnnn	nnnnnnnnnnnn	nnnnnnnnnnnn	ttgtgtttta	3420
aatatatata	cacacttaga	cacatataac	cctctttcgt	atatcaatta	tactttaata	3480
aagctgttgn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnctgcgca	3540
acagaccact	tctcaccctt	actagccctt	ctactctaag	ctatcagcat	tcttgcaaac	3600
acattctcaa	cgatctcac	tgcttgtaat	cttgccagca	acctctccct	ctcagcaata	3660
gtctattgcc	tacaccaaag	cttagttgtc	tcttaatgat	gtaaatgagg	ttctatcatt	3720
ctctgaccc	aaaccttcca	ctgcttttca	tcacactcag	agcagctctg	ctgttgcttg	3780
atttagatgt	atggctccaa	cagatttccc	ctgaagaaat	gattccatgg	ctgataaaaag	3840
ttggaagacc	tcctcagttt	cagaccatta	tcagattagc	tgtgtgctct	gtccctttcc	3900
tcaaccataa	gaagtccatg	gataaagaaa	gcttcagagt	aaaggagaaa	gcattggagg	3960
tacagcagga	ccaaggtggg	gcattcgcat	ccccaccctt	catcagagcc	agttccctac	4020
tctccctgtc	taaacctctt	agtaagaggt	agttcaagag	agggggcaaac	tcaattccag	4080
cactcaaaag	cacttgacta	ctttgtctcag	tcaactagca	agtatttatt	gagaatgtag	4140
ctctgttcta	tggagtctta	ttttcaagtg	tcagactccc	agacatccag	tccaggtaaa	4200
gaagatgggt	tcattatttc	atttgacaaa	caaagttggg	gttcaagggc	cagctattga	4260
aaaaagctat	ggaagcttc	atgagacgtg	caggtaactg	ccaatatgtg	tggttcacaa	4320
ggactgggtc	atattcagaa	acggccatta	gaaaaggaag	aagaacttct	catttggatt	4380
tataaagagt	gtcttgttta	ctcttaattt	atatcttctc	ttctccagga	aatcaacctc	4440
taactttccc	tcccagctcc	actctaccat	ggtctgtcac	cttcccccac	tgatttgtta	4500
ttcccttggt	ttcaaaagtg	aacaagaagc	caaagaccac	gcaaagtttc	acaaggccct	4560
gagactttca	attgtctatt	tcagatcaaa	tacagaac	atg atc ttc ctc ctg cta		4616
			Met Ile Phe Leu Leu Leu			6
atg ttg agc ctg gaa ttg cag ctt cac cag ata gca ggtaagaaaag						4662
Met Leu Ser Leu Gln Leu Gln Leu His Gln Ile Ala						18
gacaaaggga	gaggcttaag	aaagaagagc	aggtgggtgt	tcctagccaa	agccaaaaat	4722
gagaatgtga	ccctcaggtc	gaaggcttcc	tttgaagga	cgtatgattt	ctgggctatt	4782

FIG. 3D

ccaagcacca caaaaaaaaa aagagtcgcc atggtggcct atacatgcc atgtccctat 4842
ctgacagaaa cggtgactga gaatatgtct ccatctattc ccactatcca gtgagggtaa 4902
tgacaagaag acaggatcac tcagaccatg taaatctaaa ctgatacaag agggcagggg 4962
ttgaggtccc ttaaaggtga gatgccaaag agctgtcccc ttcctttctg gcaggggagag 5022
taaggagaca atggccaggg aacaccgtta ctctaaagat aatgtcttga agacattctg 5082
catattatta gttgtttctg tgagtttctt ttttgaagag caacaatagc agccgttggt 5142
cattcatacc ttaatgtggt ttactgagtc ttctctaaac ccaaatgaac aatgaacctt 5202
aaggctatcc ctttgacttc gaagaaagga ctctctattg aggatgaggg tgagcagaaa 5262
gaaaagcagt ttcacagttg gttgttctcc tgggggaagg agttcagacc attcaggggt 5322
gtagttagaa ccatgagtg cactattttg atgaacacca ggagctaaga gagtaacata 5382
gaggtgtgga cagaggatta agtcctcaag acaatagccc cagcccatag ggaatcatc 5442
ttctctgctc tgattgagaa ataattggctc ccttggaact tgataacctt tcgaagagct 5502
ttctctctcc tactagctgg ttcoagatca ctcttcaccc agtcacattc ctctcactca 5562
cttgagctgc ccagcctggt ctggcactag agacatgcac ttggggccct cctcaaagga 5622
agaccctgag atattctgct tactttctact ctgctctctg ctgcagggcc agctaaagga 5682
acttttcatg ttttctttgc aaggaaccct gcctggctgg catttttaga acaagcaaaa 5742
ggggcaataa cttccttgct acaaaacagc ttcaagtctc catagagtga taagggaat 5802
gagggccaaa agacactgtt ccccatcctg tggcaggact gggggcttca ggagaaaact 5862
tggggaatgt gtaacctctg tgggtttgta gcttaaaaac actgagatcc tgggttttct 5922
gtctttgttt tttgcctttt ctcttaggaa aggagtgagc tagggtgaca aggggcaaca 5982
ttttttatcc ctcatggctt cttctctacag aggaaggatc ttttcttcta agataatcag 6042
cacaagacaa tgaagatagg cactagctcc cagttaggta tactaatggg gcaaaggaa 6102
gagcattttn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 6162
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnattttgca ggtgagggaa ctagaactca 6222
gaaaaggtag ttaatttccc caagattaca tagttattag gtgacaccgg caagatttca 6282
acaaagctaa tgtcttttct actttactgt gctaccatga tgatggtaat caaaaatggc 6342
agacaaccca taaatcttcc aactttggaa taggtttttg cactgaagtc tgaatatgga 6402

1000

tacgtattga	atgtttattc	tggatattca	cagaatcaaa	aaatatgtgt	aatgaattat	6462
gttgctgaat	taactgaaag	gaaagtaaaa	atgtagcgct	ttctcatttt	cttcacgaat	6522
ttggaattct	ttctgcttt	ccactatgca	gataacatca	gttcagacaa	atattaataa	6582
cctacctaaa	ttagaatgcc	ttctcctcat	gggatttttt	taaaatcttg	tcatttcatg	6642
tctctttaat	taaagagttt	tgatttcaga	ggaggggtacc	tgaaaagaa	aacaacaaaa	6702
aaactaaaag	atctgagaaa	taatttagtg	ttacttctgg	ggagggggagg	aggtctggga	6762
tgggggtaaa	aaggatagtc	ttatctatta	tgtatattca	ggtttttggt	ttttacaaga	6822
agcatgtatt	agnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnca	agaaatttct	6882
catataaaaa	tatgaaagta	atcagactgc	aacactcagt	gcctgagaca	gagctacagc	6942
tatcaggggt	tcagacagca	cagaagatta	cattttcttc	cttgctcctt	gtacagcccc	7002
agacctgcgt	gcttcattga	aaagaaaaga	agatacctga	attaaatcaa	tgtgatgctt	7062
agtaccctat	cagtgcacat	ttcttttcnn	nnnnnnnnnn	nnnnnnnnnn	cacttnnnnn	7122
nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	7182
nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	7242
nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	7302
nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	7362
nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnca	7422
cttatggcgg	tattctcagt	cattacaagt	aaataaaaac	aatccatagt	ccctggagaa	7482
tttgattcca	ggagtaggtc	tagaagaact	tcaactggag	aatggataga	gaaatcatgg	7542
tatatattga	gnnnnnnnnn	nnnnnnnnnn	nnngatagca	tgtgaataaa	ttaattacaa	7602
aaacatatga	ctacatctat	tattatatag	catgtagata	aattacaaaa	acatgtaact	7662
acatctatga	atcttagagc	ataatatgta	gnnnnnnnnn	nnnnnnnnnn	nnnnnnngcc	7722
agaagataac	acatagcaca	atgtcctttt	cataaataaa	tatatgtgct	aagcatacct	7782
tatatataga	agataaaqct	taaaaagtaa	agaagaq			7842

FIG. 4

```

attatcactt atgagggtgn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 60
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 120
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnctgcc 180
ctttattttt tcatgaaaga aattgctgaa gaggactaaa agaagtttta gtaagcattc 240
aataaatgta tgttctttat agtttccaaa tcagcaaata tagacatcct gcatttttaa 300
ggagatttat atattttatt ggacatgctg taattttatt aaccacttcc ctgttggtag 360
acattatttc cattttcttc tgctagatta atgcttgaaa aaaatgtgtg cctcctaaag 420
actgtgatga aagttgcctc tgaataaaac tcaacaaat cattaatcat taactctttc 480
cttacttgta tgctctttgg atgctctact gtgttatcta taaaataaag tttgaagtga 540
aaaattaggg taaaacattt tatatcattt ttaaaggata tatacatgga tgtacttaca 600
tatgatgtt taaatttata taccataaca tttatttctt tttttaaaaa 650

```

005506-12601

FIG. 5A

tatatattgtt ttttttctta catttttatt tcaaaacta aggcacatctt ataaccaga 60
aatatttttt atacctgtgc atgtcttaga ggaagagacc accccagtct tttttcattg 120
atgtttttct tctctcttcg tactccagag gtatagataa accagagggc cacaatgacc 180
atgggtgatgc ctgaggtcat tctggggcac agacctcagc ctagggtact ccacttcgcc 240
tatcttttaga tccaaaacta cctgtctgac tgcctgagata aacaaaggag aataatcagg 300
ttggggaaaag gatttctatg cgaagacatg tctccatgca gtctcctac actgagcaga 360
gcatgagtca ggtgcttaga gcaggatttt gtctaaacc aggaacttca gagttttctg 420
aagaatgtgg ctatgtaaag caccceccca cccaccctt acttctcaag tacattacgt 480
ggcaagtctg aaaaaactta cacttctgtt gttaaatgtg ggggataaaa tataaactta 540
gtttcaagag gaagctatct tgggaggtaa tgcaaaatat tcgttgtgtg tttctggaat 600
aagtgcaggg tgctgactac cattgatgct tcattgcaat aaaatgcaa gctcccccga 660
gaatttttga aatgcatcaa gctaggtgtt ctaactcagc aaaaggacgt gcatacatga 720
atttttcatg cttttgccaa gtcttttgcc ctttagttta gttaaaggcc ccacatgaat 780
ggaaaagcctg tgtgtgcagc ttaattttgt agttgtggaa accttccagt tttctccttt 840
gtctaatacc ttcaggaggt caatcctagc ttgaagctta atttaataac catgtggcat 900
gtaaagtaga aaacaaaaca tcttttcctt agcatacagc aaaaaaaaa aaaaaactca 960
ctcatggatg tagtgtacac atgccagtggt atatatagtc ataactgcag tcattggtag 1020
cacagaaata aatgtgcatt gaagacacag agannnnnnnn nnnnnnnnnnn nnnnnnnnnn 1080
nnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnn 1140
nnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnngg 1200
gctagcccg tgctgactt actgtgttta agaaatatca actattacgc tacttcccag 1260
tgacagtcca aatgcagacc agtgttataa ctctacnnnn nnnnnnnnnnn nnnnnnnnnnn 1320
nnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnn 1380
nnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn aggcgaagtg 1440
gtaaaagacg ctgtcacgtg caaatgttac tttgtgtaac tnnnnnnnnnn nnnnnnnnnnn 1500
nnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnn 1560
nnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnn 1620

CCSMBE 115004

THE UNIVERSITY OF CHICAGO

nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	tagtgaatct	aatttcgacg	1680
tgggcgttag	aaaaaacctc	ttcatagaat	tgtttgcatc	agtgctcttg	ttgcctctgt		1740
aacttaacaat	aagcaagaat	gtttcaggat	ttcaaaaatc	tattgcattg	cctaaacctc		1800
ttattttgtt	tgagtaaatc	aagctcaaag	tttgcattgc	ttagaaactt	tacttggggc		1860
aaaattagac	caagtaacaa	ttaatcttct	aggtattctg	agctattcag	acatatgatt		1920
catgtttgct	aattgctctt	ttctcttgta	aatattagct	gaaaaatgtc	acctgtctga		1980
caagtagcat	attttatgcc	tatcactcct	ggcacgcatt	cttacaaggc	agacaggaaa		2040
aataggaaga	aaatggactt	ttatcaaagg	cccaggcagt	aaagagggga	gttctgctgt		2100
aagctaaggg	gagttccaga	ggaagtata	ggcgttccct	ttcttatgac	aagaaagcat		2160
agtgcagtaa	ataaatttgc	taaatagatt	caacagcttc	taccceaagt	catctattta		2220
attcttgttg	ttatgcagac	tcagcaacta	accttccttg	taagccccat	ttcttccctc		2280
gtttcctggt	tatcaaatgt	aattaaacaa	gagaagtatt	atagaagagt	aaaagtagta		2340
ggtaattctt	gaacttgcca	tatgat tact	acatat ttga	tgaatagttg	aatattattc		2400
ttcaaggaca	gattggattt	ggtatcaggt	ggctctgc at	taagttataa	gggacttaat		2460
aactcaagta	tttaaggacg	gcttccatca	taaagggate	tgcccttaag	agggtcccat		2520
tatggagatt	ctgaggtgag	agctattcca	agtggtcgact	ggattaaaaa	aaaagaatca		2580
tacaggaat	ctctttttac	atgccttatt	ccagggtctt	tgcaacctgg	cacagcaagt		2640
gcagatatga	ttagcattgt	tttacacatg	tacactcacc	ttatagccct	gccccctgtc		2700
ccctcctgca	caaaagaatg	ctgggcacac	gtgaactcct	ctctgtagaa	aggcacatta		2760
atgttctagc	catggttaaa	acagggatag	aggcaagcca	aaaatgtcgg	tcatttgaaa		2820
taaatctcaa	gtttgtgcat	atcactatca	agtggtcgtg	gtggcaatta	agaatgccaa		2880
tttgtgtgat	cacaggcaag	ttgcagtttg	atgaagggaa	agcagagggt	aatatataac		2940
gggggtcacc	ctttctttct	ccctctctct	ctttctgtca	tttatttgcc	aagctcttaa		3000
ctagaacttg	ctatgtgcta	ggtactggat	atatcaaaag	aaactcagcc	tggtctttgc		3060
cttcaaagat	ttgcaggata	gtgggaagaa	aaacttgaat	cagaggacat	ctgcagtggt		3120
aatcat tcaa	gcagcagaaa	acccaaaagt	tacttatact	gtgaaatctg	atcagagaat		3180
ggactgtcct	ggttagtaaa	atatcctgga	ggataaaagt	tgqccatqca	ttccacatat		3240

FIG. 5C

gaattaccac ttcccaaga attaaaacat ggtacgaaag aaaggnnnnn nnnnnnnnnn 3300
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 3360
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 3420
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 3480
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn aacaacttct 3540
 ggaatagcta atgcttagaa gcagctccca aatatttgtn nnnnnnnnnn nnnnnnnnnn 3600
 nnnnnnnnnn nnnnnnnnnn gcaagctcta ctgaacataa ttgatctaa tcttctgtga 3660
 ttattcagaa actactcaa gattttccta tacctccatc ataatgaata ccatttcatt 3720
 aatgatgtaa gcagccta atttgtcatt ttcacacttt attgatgtaa cactaccttt 3780
 actagtttgg ccaactccta tgcttttttt atagaactat ttgatcaat tcaactttta 3840
 aaaaataaag ccacataccc ctgtggtaga tgaaaaacaa gtatcatttg cactggtaaa 3900
 tagagaatag gaagaaaaat aaatgcagtg aaaaataaag agtgttatca aatccatacc 3960
 agatactgtt atctaccog aagcttcctg ttgattaaa aggaaaaata gccagtgtta 4020
 gaggtgtgga agtctagttg aaattatatg caattgaagg attaaaatag aattgaaaag 4080
 ggaataaatt cctctctgaa taatttaact ccttttaggc ttgattctg cctcatctaa 4140
 aatcatctta cataactcta gtggcgtgtc cctcacattt tggtaaaact tgnnnnnnnn 4200
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 4260
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 4320
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 4380
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnccat tttccttct cctttattgt 4440
 cagaaaaatg aaagcatcta cagtgggctt gtatgatgtg gtggttagaa atacctgac 4500
 tgatnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 4560
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 4620
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 4680
 nnaccatcac tggtagagag aagtgatacc tggcacaaaa atatattgat taatcaatat 4740
 ggattgaggg aaacaaacct ggagaatagg atgtgaaggt atttaagtaa catgagctca 4800
 gaccttgatg gtagggaagt cgaaggaag cattttgttc ttatatgaca gatgacctgg 4860

FIG. 5D

aatgactgca gggcttgggg ggtcaggac tggaggtggg agaggcctct gagagcaagc 4920
agtgtgtccc accaagaagct cttgtctggg tgcacagaga ggagcaaaagg gcagtcagct 4980
gcacaggagg gaattgttgg aggagagagc cacctcagat cagcgggtga aagaatccac 5040
tcttgcacac atggatgggg caaaggagaa aaaggattcg ccacgggaat gtccagataa 5100
gacaggtgcc ttttgaaaaa tgggggtgag atgggtctca ggttacactt cgtaagaact 5160
ggaatgtaaa gtaaaggcag acaatgacaa aatatcttgt tttcttttca gct tta 5216
Ala Leu 20
ttc aca gtg aca gtc cct aag gaa ctg tac ata ata gag cat ggc agc 5264
Phe Thr Val Thr Val Pro Lys Glu Leu Tyr Ile Ile Glu His Gly Ser 36
aat gtg acc ctg gaa tgc aac ttt gac act gga agt cat gtg aac ctt 5312
Asn Val Thr Leu Glu Cys Asn Phe Asp Thr Gly Ser His Val Asn Leu 52
gga gca ata aca gcc agt ttg caa aag gtg gaa aat gat aca tcc cca 5360
Gly Ala Ile Thr Ala Ser Leu Gln Lys Val Glu Asn Asp Thr Ser Pro 68
cac cgt gaa aga gcc act ttg ctg gag gag cag ctg ccc cta ggg aag 5408
His Arg Glu Arg Ala Thr Leu Leu Glu Glu Gln Leu Pro Leu Gly Lys 84
gcc tgc ttc cac ata cct caa gtc caa gtg agg gac gaa gga cag tac 5456
Ala Ser Phe His Ile Pro Gln Val Gln Val Arg Asp Glu Gly Gln Tyr 100
caa tgc ata atc atc tat ggg gtc gcc tgg gac tac aag tac ctg act 5504
Gln Cys Ile Ile Ile Tyr Gly Val Ala Trp Asp Tyr Lys Tyr Leu Thr 116
ctg aaa gtc aaa ggtgagtgt gtcaaggact agaatccatg gaagctctct 5556
Leu Lys Val Lys 120
ccaacagagg atctgcaagt cacagaaacc cattaagggt agctcaagca aaaacaagca 5616
ggctgctttt aaggagacag ctatttcaga gaaatgaaa gcactgtctc ggaataaatt 5676
tttgacatct gagtacaaag cagccgaagt acaagtgaag gggggtagga cctataggaa 5736
taaaatggga ctggaggaag ccaggaaaat tagtccctga aatgtgggag ggtatgaaaa 5796
ataagctttg cctaattcac aattctccca tggaacatcc ctgactgat tattaagata 5856
ctctttttca atagtttata cctgaaatcc agagttttta aaacctggt ttgccgcccc 5916
ttcatggatt aaaatatcaa tttagttagt agcaaccaga tgcacgttcc ccgcccttta 5976
aaaaataatg tatagaagag aatagacaga gtatgatcaga cgatatcaca gtagtaggact 6036
gagtactgta aaactaattt ctgagggagc tgtgtgtgtg tgtgcgtgtt gggcatgggt 6096
ataaattttt tttttcttac tttggatcat aaaaagttac aagtttggaa aacctgtctc 6156

FIG. 5E

aaatgcaagn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 6216
 nnnnnnnnaga gtcccatgaa gtctatagct gtccctattc ctctggattc agggatctct 6276
 ccactccagc acaattgaaa atctaaatat aaagagaate ttcacactct tgtttgttct 6336
 agaaaagggtg atttgaggaa agacataata caactataaa aaatagattt tgcttgttca 6396
 ttggcttatg gtctccaggc ttgaatgctc tgagataaat gatgccaata tttctctggc 6456
 ctcttcccat ccacgcatt ggacctcaga tggctgttac tgtcttctag agggtttgtg 6516
 ggttttggcc ccaaaaaacc attaaccttg gcagaaagtg tgtgacttta tgatctggta 6576
 caaagaagga caaactagag ggactggaca tgaggatgaa tattgtgttc gcccttatnn 6636
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 6696
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 6756
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnaaa gacctcagt 6816
 tgttacaggg gcagtgacct cctcacacct caaccatcaa tgagtcacca ggaaagccat 6876
 tagcctagat gtaactgttt tctatcttta ttgcatcttc tacatccagg cagcagctgg 6936
 gaggaactct agaactctga agtttgtctg agttccctta atgtaaggct gtacattctc 6996
 aggatgcctt gatgtactcg aatatctgca accctaaatc accacctctg tttttattga 7056
 tctctatctg aatgctgtat taatgggcca ggctctctgc ccattctctc aaactgagaa 7116
 ctgtctctca ttcctgggga ggcacctgc ctactcctta cctagatcag ggatttctca 7176
 gttgtggaga gatttgttcc ttatagtgtt ggtcatcaaa ctgggatatt tggggattac 7236
 aaagactttt caagggatgt atgggcacag gcagtttttag gaagtgaagt cctagatcct 7296
 catcttcccc aaatactcgt tcccaaaatt gacgagcctg acaatgtgca tgcaggcga 7356
 ggctcttggg gtccccctaa aacacttctc cttttaagcc taccactcac tcatcatgaa 7416
 tatagtcct tgtccagggt tgtaaaaccc tctatagtgt taaataaaag aatgattggg 7476
 aacattgaca cctgatggaa ctgttatgac taaaaaccc tttgcaata atgtggtatc 7536
 taattttctg ctttcaacaa aattgaagga ggccttata aagttaataa ctgataatca 7596
 aaaatgagta atttttgcca tgtaaatcag gtcaaagaat gaaatggcat tgctgtaacg 7656
 aaactgttc cattcccatc gatttactca tacgaacaag attcctttagc ctttataagc 7716
 tacaacaaaa tgaaaaatag aaatagaatt gaggctgaat tctattatat aaatcattc 7776

GAGGCTGAAT

FIG. 5F

caaccatgtc atatggttct tcggattcat gaataatttg gaaaagagag ccatatccat 7836
 cttattaagg gacacattcc caataaattt tcatctttca tgtttaataa ttatcaatat 7896
 tcataacatt ttacattttg atcaaatatg tgttaataat aatagaaatn nnnnnnnnnn 7956
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 8016
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 8076
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 8136
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 8196
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 8256
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 8316
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 8376
 gaacatttaa agcttcatag tcacaagaga aaagttttca tttcaatagc tataaatatt 8436
 ttgttgttgt aaagacatat aacgataatc aatacaaaat ctgtcaaaaca aaaatatgtt 8496
 acattaagat aaaattctgt agggaagggt aaattggaag tgagtttcaa tgaatgaaaa 8556
 gaaacaattt agacagagaa gnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnncttagaa 8616
 ggaattgaat agattaggtt ccttacccaa aaagcctctg ttatttgtct tattttattta 8676
 ttctcttttt tcacatttct ccagtctcat tcoccttttt taacacagga aattattcca 8736
 gcattgttca tacatattct ttgttttgta agagcttatt taaaatatgt aatattgttt 8796
 tagatgcata tatttttttt cttgttgaaa ctatatgtga ctatatatat atatttttaga 8856
 aatggacaca ttannnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 8916
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 8976
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 9036
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 9096
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 9156
 nnnnnnnnnn nnnnnnnnnn nnt 9179

tagatctcag	ctttctctgag	gcaggaggacc	atatctgttt	aattcactca	gcataactcy	60
caaagaagca	gnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnta	120
gggagaagtg	cagaataaat	atcccacact	ctttactatg	tatagacatt	atctagggtct	180
ttattttttt	tctcttttta	atctcaaaga	aaacagagga	aaggaggaag	taaaaagtaa	240
atttttgctt	gaagatgttt	ggaaaaaata	ccaaaataag	tgagatagtg	ggtaactctag	300
tgatttttat	ttttccgtcc	tctttctggc	ctccaattgt	gaaataattt	atagcactgt	360
aagaaagaag	ccacaaattg	tggtagcttg	gaccactgtt	gaggnnnnnn	nnnnnnnnnn	420
nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	480
nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	540
nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	600
nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	acttaatat	gatagtata	attttattca	660
tttcacatgg	catgaagtac	caagctctat	aggaatcaga	aaataaagtc	ttatttcttt	720
ttcttctcta	ttgtcca	gct tcc tac	agg aaa ata	aac act cac	atc cta	770
	Ala Ser Tyr	Arg Lys Ile	Asn Thr His	Ile Leu		131
aag gtt cca	gaa aca gat	gag gta gag	ctc acc tgc	cag gct aca	ggt	818
Lys Val Pro	Glu Thr Asp	Glu Val Glu	Leu Thr Cys	Gln Ala Thr	Gly	147
tat cct ctg	gca gaa gta	tcc tgg cca	aac gtc agc	gtt cct gcc	aac	866
Tyr Pro Leu	Ala Glu Val	Ser Trp Pro	Asn Val Ser	Val Pro Ala	Asn	163
acc agc cac	tcc agg acc	cct gaa ggc	ctc tac cag	gtc acc agt	ggt	914
Thr Ser His	Ser Thr Ser	Pro Glu Val	Leu Tyr Gln	Val Thr Ser	Val	179
ctg cgc cta	aag cca ccc	cct ggc aga	aac ttc agc	tgt gtg ttc	tgg	962
Leu Arg Leu	Lys Pro Pro	Pro Gly Arg	Asn Phe Ser	Cys Val Phe	Trp	195
aat act cac	gtg agg gaa	ctt act ttg	gcc agc att	gac ctt caa	agt	1010
Asn Thr His	Val Arg Glu	Leu Thr Leu	Ala Ser Ile	Asp Leu Gln	Ser	211
aagagctgcc	cccacttctt	aggtctatca	gttaggggtc	agacaagaaa	cagatggcat	1070
actcgagtga	tttgaggaga	gtgtaataaa	gggactgttt	acaaagggtg	gateaccatt	1130
tggagaaact	acaaaggata	gtgcagaaca	ctggggcttc	aatggtggga	gggcaattac	1190
cactgttgga	gaagttaactg	gaatcagaag	ggagctgtag	ggaaagcccc	acttcccagg	1250
agctgtagcc	acagaatagg	gaagctgcc	catgcacgca	ctccaaaggg	tggaaactgg	1310
atgaatgaat	accccaactc	attctctctc	cacctcccaa	tctcctgcta	gcacctccca	1370

FIG. 6B

```
tgtggctgaac ccagctagaa gtcagagaat acaagggctc actgttgtat tccataaaa 1430
tcaacttctc agggctcaga gcaattatga catgtacaga atagatctgg agaggaaaca 1490
gaaaaatatct agtacaatag ctaatcactg tgattcatgc acagtgtcat gagccagcag 1550
gatgaatatt cettgtgtgt acttgctgcc agtcagctgg ttatgggttt ttccaagaaa 1610
tttggtctct aacaaaattc ttcagagcct ttactgacta tgctggatat ttttgaagg 1670
gatcccatac ttttgaactt catacagcag aatttcaaac aatcttggga aaataacaac 1730
ttttatctgc ccagtaagga caactaacac ctagtatcat aatcatttcg taagagacag 1790
gtaatttcat caccgagtgc atat
1814
```

FIG. 7A

ctactgagaa gggatatact ctcagactaa aggacagtcc ctagtactga ttcaatctgg 60
ctttatagaa aattcactat attgtcattg tatttcacag ttgcccttt gtcttagctg 120
gtaagacaga gcctatgata aggacttgtg tggcatgcag gtattttaatt ggcaacccca 180
gagggcgagaa gcaagagatt taggagtta agagaggga atataagagt atattatcaa 240
agttgtagtg tggacaacag aaactcaaat attcaaggac cagcatgtag acagcctcct 300
aagatgtcta ctcagacaaa gaatttcagtg tggaaggact tgttcatctg cttcacgccc 360
attggttgac aggaatatga actccattct gctgctgggc tagacatgca tgtgggctga 420
gtgagctttc ccagtatcc gtagcatcag aaaagtcgca gggcagaaaag aaaagtatcc 480
aatttgaggt gaattactga ccttgaagtg agtghtaagg taactagaat tctaccccag 540
ctggctgaag tgaaaggta ggctgagagg aaataaggca ggaactgcaca gtccccaatt 600
gtactgttca aatccactca tgcccttcat taagtcagct ctgccactga gccttcacag 660
tggggaggca ccacaatctc tgcagaagat ttaatatata ccagtttgtg gaacaagctg 720
ttnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 780
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 840
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 900
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 960
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 1020
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 1080
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 1140
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 1200
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 1260
nnnnnnnnnn nnnnnnnnacc tgcagcactg ggatagccct ggtacagacg tagaacatgc 1320
ttgaggaggt tgtcaggagg aatgagtta gacctgcac agaactacca ccatcaagta 1380
cagttggggt gaggcagaca tggtatgagt tgaggcatca gagatatctg atgctttatg 1440
ccaaatataa attaatTTTT tcatggagtg acatgatcc acagaccaga ctccaagaac 1500
tttgcatgta ctaaaataccc atctcatcat aactttcctg gtattttctt ctggaaaaaa 1560
ttcttcctcg atacagtttt cagaggcagc tagatgcact gtcactctct cccttttccc 1620

005585-12601

THE

acttccctac	ctatccacaa	tttactacc	aatgccaca	ctaaagttag	cccaacttcc	1680
ttctaactaa	attattagtt	tagaaggaaa	gagaggagtc	atgctaagga	tcttaactgn	1740
nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	1800
nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	1860
nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	1920
nnnnnggggag	aggaggggag	aggaggtagg	gaggggaaag	aaagaaacta	gaaatccatc	1980
aatttttagga	ccaacttcag	gtaaaaaaat	gaattaggga	agttgtgtct	tcaacattct	2040
ctacctctct	ttatatcatg	gttgagacca	cagacttctc	acctcatgaa	agatgaactc	2100
taactaattc	atactaaagc	taaagcctct	aaagaggatt	aaatatgagc	aatcccacga	2160
gaactttttt	cccttggaat	tgtttattca	actgtcgttc	gttatatgga	atttctctgc	2220
tgtttaagt	taggccagta	ctttggatga	attgtagtct	tctagaagaa	cgcttcttat	2280
ataagaacct	ctccagggaa	acaggggcct	gtatgagatg	aattgagaaa	taactttaca	2340
ccactgatta	tgtcagtggt	ctattctgca	tggtagagat	gtgaaagggc	agactgacca	2400
ttgtctctga	agcctttacg	ctgtgagaag	ttaacagtgg	agtaaaatgg	ccactccact	2460
ctcttcatgg	aagccaacat	ggcttactaa	atagtcaaca	accatgggag	agacctgtgg	2520
ggtcttctac	agagctcagg	atctctctag	gtatcactca	taaatacagc	catcagggag	2580
atggagaaat	ctttgtgcag	ccagaaattc	tcaacctggt	tttaccctac	cttcccaact	2640
ttgtattcgt	cctactgttt	actgacatgg	atcctctgct	tcattaacca	tccttctctc	2700
accacatgct	ctctgaactt	ggctgcacct	tttctacctc	catgcctctc	ttgtcaggtg	2760
ttttccacat	aaatatcatt	atttccctct	ctactagctc	caagcccacc	ctctctctgg	2820
ggcagctcag	tcactccagg	gcacaaaggg	gtctttccct	catcccacat	tttgagaact	2880
actacctgga	caatttggtt	gcttgtgaac	tatgcttgcc	tttttaattg	ctattttatt	2940
ttccatgtat	tttcatgttg	cacacaagtc	ttctttattc	cacactaagg	caaaagcaga	3000
gtcctgtggt	cataataagt	gtcacaacaa	tgttgggttg	attgggttgg	agattccatc	3060
ttagataatc	gcagtcctcc	catgccagct	accagactgt	gtggacagcc	aggtcagagc	3120
agccaaatga	tattctagct	tgtggccaaa	ataccagcaa	caaaataacc	aaagtccac	3180
atctgcctct	gagttctctg	cttctatttc	tcaagggcac	ttttaagttg	tcttatgact	3240

FIG. 7C

gttccctttt	tactcattct	cataaaattga	gctgtggact	gctgtgaccc	acaagcttct	3300
ccggaagtca	atgtataaaa	caaacacgga	aacgaagagt	atgtggggtg	gagggtactc	3360
cactgactct	agaatggatg	actgaacatt	ccaaatttca	agcacaaagt	agggagcaac	3420
agatcatttt	ccttttgaaa	tagggtttct	tctgctcagc	cagttgttgt	attttcatta	3480
ggaaatggaa	tgggactaca	gcacaaaaaa	taaatataaa	aggacccttg	tagggctggc	3540
agaaaaagaa	atccttccta	ggagaccttg	aggtgattcc	aggcnnnnnn	nnnnnnnnnn	3600
nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	3660
nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	3720
nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	3780
nnntcagaaa	gtgtgcaaac	agtaaaaaaa	aatggtatat	ctagcaagtt	gcatagcctta	3840
cttgtgagtt	catgaagttg	tggcaaggat	aagacaaaaa	ttttttgcca	ttgcatcatt	3900
atatcattgc	taagagtatg	ccattattnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	3960
nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	4020
nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	4080
nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	4140
nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	4200
nnnnnnnnnn	nnnnnnnnnn	nnnnnttaatt	aattaaatta	aagaaacgac	aaaagagtat	4260
gcaagaattt	taaaacaact	tagaggaata	tgtatgagga	tacaggctaa	gctaccataa	4320
tgaagagacc	tcgaaataca	gtgagaaagc	agacagaagt	atcttctcgt	ccatgtaaca	4380
ctcagggtgt	tcagagcagc	taagcagcta	tgttccatag	agtcattcag	tgatccagat	4440
tattttcatc	tgttgctctg	ccattctcca	ggatgttgtc	cctataaaat	tgtcaaagct	4500
cagtcagtgc	caaacccatg	tttcaacctt	cagaaagtaa	acgagtggtg	gaaaacacat	4560
tcaatgtttt	aaggccaaga	ccttgaaaac	tcactctctt	agcctgaact	tagattacat	4620
ggctgggccc	acttaactat	agggggaggct	tggaaaacata	gtctctgaga	agccatgtgt	4680
ccagctaatt	ccctaatact	aaagtgtgaa	gaaagaatgg	attaaccagc	agtataccac	4740
aaggtaacaa	atgactagga	ggatcaggct	aggtggacta	gaaaagagac	agtcaattca	4800
gtgcaacaat	tccatattga	cacttttcat	gtagctgtgt	cttggctcta	tctagagagc	4860

FIG. 7D

actcagaggt agttagata aggcctttgc cctccaaata cagtctaagc agactgattt 4920
cctactggat gttcaacttt ggagctttca gggatgagta gggcttctgt acgtggaaga 4980
gactatgagg gaacctgcac aggacaaggg ttgcataaa gacactgagg tagggacctc 5040
tctgtttgtg gggacagtga gaggccagg tctccttgac tcacaaagtg cttactaagc 5100
acttactaga aattaagaag cagattataa tcaatatggg ttatccaatg ttgggatgag 5160
caaggctcct tatcttttct tctttaatgt taatcacact ctttgggatg gagacaaata 5220
tctgtggggg ctnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 5280
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 5340
nnnnnnnnnn nnggctcaga ctataaatg tctaactctc tctccagtaa aacaatccgt 5400
ggttctcaga tagcactgtg ctggaggtag tgggggttga gggctgggaa gttgggagga 5460
ctgagccctt cccgctgagc agtttctgcc agtttttctc gtaccagcct gtcagtgtta 5520
ttccatgtga atgactccag aggcataatt caagcttttg aatagggcac aaattaacct 5580
gagtaccctt tcatttcctt gtaggtgaac actcctctag cctgcctttt tgcagtcctg 5640
gagcccttgt tctaactctg acacaccaga ggactttaca aggctttccc cagcctccag 5700
aattattctt ctgatccacc ctctactaaa ctcacccttt cctcagtgct aggacgttga 5760
aaaaccgaaa caaggcaaa ggcataattg aataattcac actaaggcat gagtacttag 5820
gtttagtata ttaacactac ctaggatatt ctatttcttc caaaggatc ctgttaatcc 5880
ttgaaattta acaactaatg gtatagattc taagcactgt gactacttgt cagtggggga 5940
aagacatttt tgggctgaga gactttgcca ctgnnnnnnn nnnnnnnnnn nnnnnnnnnn 6000
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn aagaaagatg attagatnnn nnnnnnnnnn 6060
nnnnnnnnnn nnnnaaaat aacatgagag nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 6120
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 6180
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 6240
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 6300
nnnnnnnaca gagctagccg tgttggtgtg caccactca tgtggccagc ctgttggtct 6360
acctcttagt tgccatgtaa caggattctg gtgcttttcc ttgcccagg t cag atg 6417
Gln Met 213

0925056-122604

[illegible]

gaa ccc agg acc cct cca act tgg ctg ctt cac att ttc atc ccc tcc	6465
Glu Pro Arg Thr His Pro Thr Trp Leu Leu His Ile Phe Ile Pro Ser	229
tgc atc att gct ttc att ttc ata gcc aca gtg ata gcc cta aga aaa	6513
Cys Ile Ile Ala Phe Ile Phe Ile Ala Thr Val Ile Ala Leu Arg Lys	245
caa ctc tgt caa aag ctg tat tct tca aaa ggtaagtgag ttttattcat	6563
Gln Leu Cys Gln Lys Leu Tyr Ser Ser Lys	255
ggtaacccaa tgcactgggt gctcgcagca tgagccactg ctttgcactg caggccctatg	6623
gcttgctgct ttcattgctaa acccactcag agcttatgaa ccactttgag cttgtcttga	6683
tgattatttt tccccagaag aaaatggctc tcctcgtcag tgagctgaac ttcttacct	6743
gagtttttta aagggaatgt ttgttcttta tgtctgaaag agtttgtctt attcttttag	6803
ccaagagctt tcattcagcct catgagagtg atgttatttt ggcaatgcag agagctacgt	6863
gctccgattt tgctgggtgg aggttgccag gatcctttct gaggattcct tccattttca	6923
ccccctttt cccagctctg gatatgacct gggttaaacc caccacctct ccagggaatc	6983
tcaacctcac ggttgggtaa gaaaggaga aaggttttg aggccatttg gggataagga	7043
aacagctggt tgggtggtgca ttaacgtctt tcagcagctc ccttcgagtt tctccttagc	7103
ctgtgtgatt cttaccaaca cactcctggt ctgttgtacc agctgggaca gagcatgctg	7163
aagcctttca gccctgattt cattgcttca ttgttcatgt gctcgtcttt ggtttcctgg	7223
gtggagcctg cccacaaaac cccagaatg tatgcaggcc tagctggtgc ttctctaacc	7283
ggctcccttg tctgcactca atgaacttct ccaagaatct atacatggcc tcactctatg	7343
aaagagaaat gacatgtgga aataattcag taggagtttg cagcagcact atctgaggac	7403
taggggaatt ttaagtgggt gttattctac atttatactc ataacttcta tattttctac	7463
tgccataaaa tattgtcatg ttctatttgt ccattgccct atgtgtgtat gtaattcactt	7523
gggtgctgac cacaatatct ctaactgtag aatgcaagga attgttgcca aannnnnnnn	7583
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn	7643
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnncttca tggtaaagga	7703
ggaggtagtg ccaacagaac ttcgactttt aaatagaacc acttcagaga gttgtgtcag	7763
gtgcacctca gttgtcttat ctctcgcatt tcttctttta cctctcacac ccatacctca	7823
gggttcaagg cctggggcct gaggactcct taataacttc aaaaatgagc agctgaatgt	7883

1000

ctgcttcacg	ctgtcttttg	gagaatggaa	tggagtcaca	ctcaagaata	gagtggaaat	7943
aaatcctctc	ctcctcttc	acccaatct	taagagtga	tgaggatata	agtagctccg	8003
agctgggagg	taaagctcaa	gttctaactg	tgattaggag	acctttctta	caaataagaa	8063
ttaagtgaat	aaatgtgcaa	acaatttctt	ttatatTTTT	aatgaaccag	agagaatatca	8123
tggttgccata	tataaccctt	gtctccaact	cacttgcaat	cagatctgct	ttcttatcatg	8183
tgctctccat	gcacacaaac	ttgtgtgcc	tggaaaagg	ttgagaactg	ctgggtgatgc	8243
agacagagct	ttaannnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	8303
nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	8363
nnnnnngcag	aagagaagga	acattttaca	gcttattggc	cgaactctac	tgccgctagt	8423
gtggttcaac	ttggactaca	gagaaatctt	cctaactggt	ttccctglat	tcactcctgc	8483
tacctccaac	ttggtctggt	ctcacttttt	gctataatag	gcttttaaaa	atcataaatc	8543
taccatgtgt	ctctgtccca	gaccttctcc	atggcttctt	attgctcaat	ggatgaagtt	8603
ccaacagacc	caggatgggt	tgactcatgt	ctccagcttt	aactgcatca	ccatcacctt	8663
cattgtctaa	agctctaacc	acacaggatt	ttctagtcct	cagaggcatg	gcagtccttc	8723
aattccgagt	tttctcatat	aatattgtct	cttcttaaaa	tattttttct	tgtgtgtccac	8783
ctgagttgga	gtcatctttt	aaatctcagc	taagcttata	cttcatcaag	tcttttcttaa	8843
ttctactccc	acgcaccaca	cccattacat	taaatccctt	tattatatgt	ttccatagca	8903
ctactttctt	tcttttcagt	atactcagca	cacaatcaca	tgcttaggat	ctgtttttaat	8963
agcttggact	accaattaaa	ttgcatccct	tttaattgtc	cattgatctc	tcaagtaccc	9023
acatgcccat	cttagcaaga	agttcagtgt	ctccctctta	tagcatgtac	ttctccacct	9083
cccacaaact	gccagaaaag	ttacttagcc	cacagggcc	gtgctaggca	gctagggttag	9143
tctctccag	ggccctggtt	ttgagcagtt	gctgtctact	ccggccatgc	agaatctctg	9203
gtccttccag	atgtctccat	ccactgtgca	aaggtaaact	tgtctggtcc	gatccccaca	9263
cagaccacag	tgctacaaga	ttacagttct	tatggttccc	caacacatgc	tctgtcattg	9323
gtccccaaag	aggaccctta	tgggttgatg	aggtaggagg	aggtccctgc	cttagccaca	9383
gctgcacaca	gccagcctct	tcccttctag	gccctcatgt	tgagcctggg	acgccagctc	9443
taacttctct	ctcttcagtt	ctcttagagg	ccattgggat	cctgaatttc	ttagtcattt	9503

FIG. 7G

gcaaaagttaa gtaaagaagc agcaggcttg gtcaccttcc ttccagatgg cttettagct 9563
 cctgaacaga ttaccaccac taccctcag tgactagctc tgtgtactaa agtgtattgg 9623
 gagggcagcc attattggc cataaaaggt cctgcttacc attttccctc aagaggaacc 9683
 attcaacagt ttggggctcg agggtgacct gctgggctct agagaagaag ctggcaactt 9743
 ctgttgcaaa ataagttaa attctgctc atctgcttgt cttnnnnnnn nnnnnnnnnn 9803
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 9863
 nnnnnnnnnn nnnnnnnnnn nntaaacatt gaacctacta tatgcaggtg agtatgctag 9923
 atnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 9983
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 10043
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 10103
 nnnnnnnntg nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 10163
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 10223
 nnnnnnnnnn nnnnnnnnga tttgaataca ggtctgttg actccaaaac ttgtggccta 10283
 tttgttgcaa aagtgcctaa tacaatttgg ttcagtcaat attattatct ttgaacaatg 10343
 gaaggagaaa gtaagtgtca atccaaaata attgagtgc ttatacattg acttgctgag 10403
 ccaatggcaa agtcaagtta gaatccagca gaagtcacca gctacagaat ctagatcttt 10463
 agaacatgtc ttcagatctt cagaacagtg tttcttaaac tctcttgtga aggaacagtt 10523
 atcatcatag gctggttaaca gttcacctac cagcaccagc ccatgaacca gactctaaagt 10583
 ggcacagccc tagaagattg agccagaatt ttacagaggt ttaaagacca aatatgctgg 10643
 tttatggta cctgtggccc acagagaatg gcagcactaa cctcaggcat aaatgaggtta 10703
 cccactgaag ccaacattca agagcaattc ctatgggtta accattgggc tcctttcaaa 10763
 tgcaaacctc catgaaagag actacagtgc tgaatagaga cctccaaatt ccaggccaag 10823
 ctcaggatag tcatgaggga attactaaaa acctgggata tagggcaaaa gcagaattag 10883
 gaatggactg atttcaggaa ccaggcaat ggcaggagtt gggcattaaa tcctaaaaga 10943
 gaatcagagt gggagggaat atgtgaaatc agaggttaa aaaaaagta aaacctnnnn 11003
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 11063
 nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 11123

0505066-12501

FIG. 71

nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn 12723
 nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn 12783
 nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn 12843
 nggcaccaag agatgagggg ggcagtcttg gccatatatt tggctgaagt aagtcatttt 12903
 gtcattctctg catgagcctt tataaacaga agtaagtaac caactactat ttggtcattg 12963
 gagtgtgtcca agaggccagg gttctgtcta atacctgttc atgcatgaac atgccaaacct 13023
 agattgcatg cagactacca gttttgggtt tttgtttagt tcagcaggat ttttctcagc 13083
 tcactgcctc tcaaactttc agcaacaaaa ggacatctgt gatatcagaa tctaccactc 13143
 taagtatttg gatgcaatag caatgaatat ctgagtaaat ctagggtggg agtggggggca 13203
 ccctgtagcc aaaatgatth aacaaaaatca aaccaaattt ttggaatga tgccttggtg 13263
 caatgaagag actacttgag gtaggtttga cttatctaata atcttatttt ctttaccaat 13323
 acctaataag gaatttaaat atttctagat agctttggaa aggtccctta aagaggcacc 13383
 agcataccac tgccagatct aatcccccca aacactgttt tcatcatcat catgtcatct 13443
 cttgtctcta tagatcatat caaatccttc ccagagtttt tcaggccttt tgacaactag 13503
 ccacatttca ctaagccaac tcatctacca ctcttcaaca aaacttttcc tcaagttgag 13563
 ctgtccacc aacaccactg ccatgagctc attcccactt ctgtggcttt gctcatgttg 13623
 gttatttttt tggagtgtcc tccctattcc ttcttacttg tcccaatccc aactttttggc 13683
 atgggtctact ttaagataca gtaatgagta actttannnn nnnnnnnnnnnn nnnnnnnnnnnn 13743
 nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn 13803
 nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn 13863
 nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn 13923
 nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn tttttaaaaa ttaattcaan 13983
 nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn 14043
 nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn 14103
 nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn 14163
 nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn 14223
 nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn nntacataca 14283

177

caacactctc	ttgcttaatc	tgtaagactc	tctcccacac	tcataccttt	ttatttttcc	14343
tctgcattgt	acacacaatc	tataccactc	ttaagcacat	gattacagcg	ttattttctg	14403
gctgcttcta	tgtgtctata	ttttaggtcc	acctggtcaa	tataataaag	tgggatatta	14463
gtgttaatgc	aactatatgg	tatttgatat	tgtcttttct	gtccgtttat	caatgtttct	14523
tatagnnnnn	nnnnnnnnnn	nnnnnnnnng	tgctctgatt	tgaccaaatt	tgactaaata	14583
cnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnng	tgagtctatc	aactcaaaaa	14643
agaataacct	acaacaataa	caagtttcag	aacatttttt	aaattactga	ttttatgagn	14703
nnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnngat	ccattgccta	14763
gaaattgcc	tggtaagat	tttaatatgt	ctcaggccca	gacagctcag	ggcttttgaca	14823
ttcccacacc	cattctctgc	catcccagtt	ctatctctac	ccaaaaccat	ccattatgag	14883
gagagtgtac	agctctaggc	tgcccgggag	ccatcccgca	ctctcatttt	tgactctgcg	14943
atcttgggag	atggagtctt	gggacttagc	ctggacatgt	cccttgcatg	tacttcttac	15003
aagactttta	ttcagatgaa	tattttccct	tccaacttaa	gaagcacagg	gcttgctgggt	15063
tttgcttca	taaccagcaa	ctgaagcaag	acctgactgt	tgaaaatgcc	taatagagtt	15123
cagtattagc	gctgtttcac	catttctctg	atctcttgcc	tttgtgcaca	tgatagaatt	15183
gcacttctct	gtgattaatt	tgtagttaag	tgtggtcatg	taactcgctt	tggtcaatta	15243
aatgtaagca	taagtgtatc	gtgttatctc	tgggtagaag	atgtaagagt	tggcatatgc	15303
tttgccatat	tttctttatc	catctggcat	ggtaaacagt	aacattctag	gtagtaattg	15363
ctccatcagt	ctcagtctct	gagtgactaa	aattgcagca	gtcccctgct	gacctcaat	15423
gtacatggaa	catgaacaag	aataagcttt	tgttttttat	attgagattt	tggagttggt	15483
tgttcttaca	gcattacctc	gtttactcta	atacaacatg	gaaaaaactg	gaacctataa	15543
taaaatagacc	ctacgttgcc	attttaaactt	ctagttctga	ggaataataa	tgtgggggaa	15603
tactttctat	ataataaaaa	aatagaaaaa	tgcaaaaataa	aaatatactt	atgtatcatt	15663
catgtcctat	taaaaatggt	atttatagac	tcaccatatt	cccttctctc	agaaaaatag	15723
aagtaaaaaa	atgaaaatgc	ctgtaatcat	gtttttggat	tatggaatca	agtattgctt	15783
tttactttta	tgttttctga	atttttgggt	tacttcacta	catttttgag	tgccctgatg	15843
tattactttc	aaaaagaaga	agaatacttt	ctgaagccat	ttcaaccatc	ccacttcacc	15903

FIG. 7K

tctctagatgc	ccagataacca	aatacattat	ataggactct	tcatacgtcc	tatatcaagtt	15963
taggaaggggc	gatgctatac	cttcttttaa	ggacacctac	caatgtctta	gttgcccttc	16023
aaagactcct	agcacagcta	aatgtgatgg	atatgtctta	aggatataag	agctgaagtg	16083
acttgcataa	ggtcatatca	taacttactg	ttagaaatgg	agctagaact	cagaccctac	16143
gagtccttgt	ctgtgacaca	ctgcccttcc	catttgtgga	agttgttctt	gtatctaaat	16203
ttatctgtgc	tactatttgg	gcttagccat	tctccctctt	atgcagacaa	cgagataaac	16263
agtaaaacct	taggagtgga	ttatgatacc	atagatatat	atcatctatc	ctttacaaaa	16323
tagttattac	agtcatacag	ccttggttag	agtttacaga	ccatgtatcc	tagctannnn	16383
nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnntgaaaca	16443
gtagcagacc	aaaagaagtc	atgattccca	gcatagtgct	nnnnnnnnnn	nnnnnnnnnn	16503
nnnnnnnnnn	nnnnaaacct	gtattaagtt	tctgtttatt	gcaagacctc	gtcagttagg	16563
ccatgtggga	actagaagga	tgaatttata	agtcatacaa	gattcttaca	attaagtatt	16623
accgataagg	tactcaagaa	acagttctca	ttcacataat	ttgggttaaa	acaaaaagaa	16683
gccagcttcc	tataactctt	tggtccagtc	tttacgcttt	ttgttttggt	ttgttttggt	16743
tcatgatgat	cccgacttcc	ttctaagaac	ttccacctga	gaactgacca	cagcgtcagc	16803
attccacatg	gggtgtgttc	ctttcccttc	tccattttca	gtggtttcca	attctctttt	16863
cttttggcac	tataaacctt	tcgcaaagga	aatattagac	agaactccta	catgtcaagc	16923
aaattaaaaa	agtggtgaaa	ttagagtgga	ggacataatc	accctatcat	ataggctatt	16983
tgtccatata	atatttgtcc	ctacaaagcg	ctctaaggnn	nnnnnnnnnn	nnnnnnnnnn	17043
nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	17103
nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	17163
nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	17223
nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	17283
nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	17343
nnnnnnnnnn	nnnnnnnnnn	nnnctctaag	ataccttgtg	cttcttggaa	catatttgga	17403
aaatcatgta	gctctcaaat	tatccctatg	tcttgaagcc	caccttacca	tcaatcctca	17463
gaaataccca	acccatgtca	ggcaacttca	cactttcttt	cttcaggcag	cacagttgtc	17523

100
 101
 102
 103
 104
 105
 106
 107
 108
 109
 110
 111
 112
 113
 114
 115
 116
 117
 118
 119
 120
 121
 122
 123
 124
 125
 126
 127
 128
 129
 130
 131
 132
 133
 134
 135
 136
 137
 138
 139
 140
 141
 142
 143
 144
 145
 146
 147
 148
 149
 150
 151
 152
 153
 154
 155
 156
 157
 158
 159
 160
 161
 162
 163
 164
 165
 166
 167
 168
 169
 170
 171
 172
 173
 174
 175
 176
 177
 178
 179
 180
 181
 182
 183
 184
 185
 186
 187
 188
 189
 190
 191
 192
 193
 194
 195
 196
 197
 198
 199
 200
 201
 202
 203
 204
 205
 206
 207
 208
 209
 210
 211
 212
 213
 214
 215
 216
 217
 218
 219
 220
 221
 222
 223
 224
 225
 226
 227
 228
 229
 230
 231
 232
 233
 234
 235
 236
 237
 238
 239
 240
 241
 242
 243
 244
 245
 246
 247
 248
 249
 250
 251
 252
 253
 254
 255
 256
 257
 258
 259
 260
 261
 262
 263
 264
 265
 266
 267
 268
 269
 270
 271
 272
 273
 274
 275
 276
 277
 278
 279
 280
 281
 282
 283
 284
 285
 286
 287
 288
 289
 290
 291
 292
 293
 294
 295
 296
 297
 298
 299
 300
 301
 302
 303
 304
 305
 306
 307
 308
 309
 310
 311
 312
 313
 314
 315
 316
 317
 318
 319
 320
 321
 322
 323
 324
 325
 326
 327
 328
 329
 330
 331
 332
 333
 334
 335
 336
 337
 338
 339
 340
 341
 342
 343
 344
 345
 346
 347
 348
 349
 350
 351
 352
 353
 354
 355
 356
 357
 358
 359
 360
 361
 362
 363
 364
 365
 366
 367
 368
 369
 370
 371
 372
 373
 374
 375
 376
 377
 378
 379
 380
 381
 382
 383
 384
 385
 386
 387
 388
 389
 390
 391
 392
 393
 394
 395
 396
 397
 398
 399
 400
 401
 402
 403
 404
 405
 406
 407
 408
 409
 410
 411
 412
 413
 414
 415
 416
 417
 418
 419
 420
 421
 422
 423
 424
 425
 426
 427
 428
 429
 430
 431
 432
 433
 434
 435
 436
 437
 438
 439
 440
 441
 442
 443
 444
 445
 446
 447
 448
 449
 450
 451
 452
 453
 454
 455
 456
 457
 458
 459
 460
 461
 462
 463
 464
 465
 466
 467
 468
 469
 470
 471
 472
 473
 474
 475
 476
 477
 478
 479
 480
 481
 482
 483
 484
 485
 486
 487
 488
 489
 490
 491
 492
 493
 494
 495
 496
 497
 498
 499
 500
 501
 502
 503
 504
 505
 506
 507
 508
 509
 510
 511
 512
 513
 514
 515
 516
 517
 518
 519
 520
 521
 522
 523
 524
 525
 526
 527
 528
 529
 530
 531
 532
 533
 534
 535
 536
 537
 538
 539
 540
 541
 542
 543
 544
 545
 546
 547
 548
 549
 550
 551
 552
 553
 554
 555
 556
 557
 558
 559
 560
 561
 562
 563
 564
 565
 566
 567
 568
 569
 570
 571
 572
 573
 574
 575
 576
 577
 578
 579
 580
 581
 582
 583
 584
 585
 586
 587
 588
 589
 590
 591
 592
 593
 594
 595
 596
 597
 598
 599
 600
 601
 602
 603
 604
 605
 606
 607
 608
 609
 610
 611

tcaggaggagg	aggagagctgc	tattagcaag	aggagtcact	aacagcttca	ctcactctgtg	17583
cccatgaatt	tttaattggtg	tgaaaaagtct	gtgtattttt	tatggtttctc	tatggctcat	17643
ataagaggga	caaacaatac	atgaaagtgc	agagatgggg	acaaatatca	ctttaagctg	17703
gggataatca	gggaagaaga	aagttttcat	ggagaagggtg	acttttgaat	cagggaagaaa	17763
tggaaacagc	aaactcttct	agatagagga	gacactaaca	ggaaaggcag	agaggcagga	17823
agggtgtgga	aagtgacact	gaccccgctc	agagagaaag	ccaggtgtga	gataaggggg	17883
aaagactgtt	agggcattga	tgttaaacca	ctaattccag	gcaaagttta	gattttactt	17943
actaagcaag	agtgcttcag	ttagatccta	gcaggaaatg	gagggtatgc	ttagaagagg	18003
taactgaggc	aagtttaatt	tataaagggtg	tgtgcagcat	taagggaaac	cagcaaggga	18063
tactgagcat	gccaggatgc	aagagcaggc	agggaaagggt	actattccta	ggtctgaagg	18123
agaaaagggg	gggagcagtt	cccagaacct	tagtaaaaa	ggcaatgaga	aaggtccatc	18183
tggcaggacc	tatggtcttt	aacagagggg	caaagtcac	ccacaacttg	ctctgggaggt	18243
tgtctgagg	tagatacccc	aacctctctc	tcaacctact	gcaacactct	ttttcccta	18303
gactgagccc	agtcaaagac	agagggagga	gcccagtgat	gcagctctga	atgtcatcat	18363
cctggagcat	gaatagagtg	cagcagggtg	aataatgagt	ctgcaggaat	taatagaaat	18423
atctgacaca	atagggaact	ataagaggtt	ttgaatagga	gaggcccttg	aaatgtgtct	18483
caatattact	gaactatgtg	tggcccaagg	aatggaagag	gaacagctct	tgcaataggt	18543
ctgaggagag	aagctgaaga	cttggaactag	ggcaatggta	aaaactgtgg	aagaaggtt	18603
taaatgaaa	gttttaaac	atgcggcttc	cagctagatg	aactttttta	aaaaaattag	18663
ttcctcacte	aaattttggg	gagggttatat	attttctaat	cataaaaaat	gatttttctt	18723
atttgtgggc	ttttctcccc	ag atc tga	acctgtggtc	ttgggagcca	gggtgacctg	18781 273
atatgacatc	taaagaagct	tctggactct	gaacaagaat	tcggtggcct	gcagagcttg	18841
ccatttgcac	ttttcaaatg	cctttgggatg	accagcact	ttaatctgaa	acctgcaaca	18901
agactagcca	acacctggcc	atgaaacttg	cccttctact	gatctggact	cacctctgga	18961
gcctatggct	ttaaagcaagc	actactgcac	tttacagaat	tacccactg	gatcctggac	19021
ccacagaatt	ccttcaggat	ccttctgtct	gccagactga	aagcaaaaag	aattatttcc	19081

FIG. 7M

cctcaagttt tctaagtgat ttccaaaagc agaggtgtgt ggaaatttcc agtaacagaa 19141
acagatgggt tgccaataga gttatttttt atctatagct tcctctgggt actagaagag 19201
gctattgaga ctatga 19217

095856.12601

FIG. 8

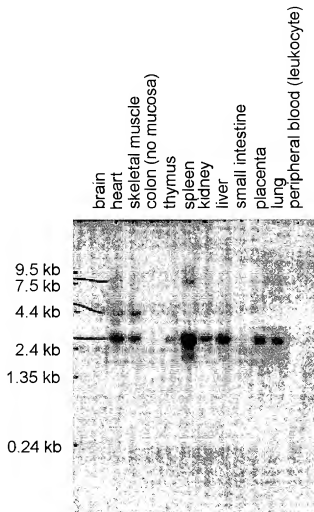
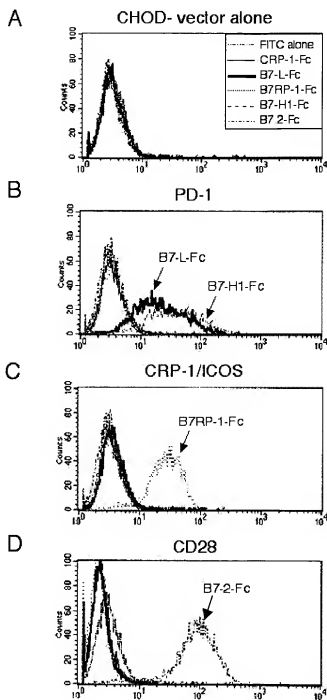


FIG. 9



0955866-122601

FIG. 10

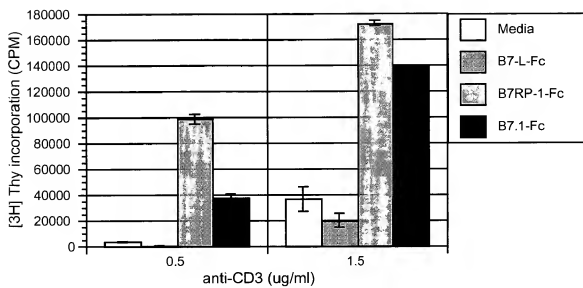


FIG. 11

